not be found a *co-efficient* in the most considerable Operations of Nature? As in those of *Heat*, and *Light*, and consequently of *Rarefaction* and *Condensation*, *Hardness*, and *Fluidness*, *Perspicuity* and *Opacousness*, *Refractions* and *Colours*, *&c.* Nay, I know not whether there may be many things done in Nature, in which this may not (be said to) have a Finger? This I have in some other passages of this Treatise further enquired into and shewn, that as well *Light* as *Heat* may be caused by *corrosion*, which is applicable to *congruity*, and consequently all the rest will be but *subsequents*: In the mean time I would not willingly be guilty of that *Error*, which the thrice Noble and Learned *Verulam* justly takes notice of, as such, and calls *Philosophiæ Genus Empiricum*, *quod in paucorum Experimentorum Angustiis & Obscuritate fundatum est.* For I neither conclude from one single Experiment, nor are the Experiments I make use of, all made upon one Subject: Nor wrest I any Experiment to make it *quadrare* with any preconceiv'd Notion. But on the contrary, I endeavour to be conversant in divers kinds of Experiments, and all and every one of those Trials, I make the Standards or Touchstones, by which I try all my former Notions, whether they hold out in weight, and measure, and touch, *&c.* For as that Body is no other then a Counterfeit Gold, which wants any one of the Proprieties of Gold, (such as are the Malleableness, Weight, Colour, Fixtness in the Fire, Indissolubleness in *Aqua fortis*, and the like) though it has all the other; so will all those Notions be found to be false and deceitful, that will not undergo all the Trials and Tests made of them by Experiments. And therefore such as will not come up to the desired *Apex* of Perfection, I rather wholly reject and take new, then by piecing and patching, endeavour to retain the old, as knowing such things at best to be but lame and imperfect. And this course I learned from Nature; whom we find neglectful of the old Body, and suffering its Decaies and Infirmities to remain without repair, and altogether sollicitous and careful of perpetuating the *Species* by new *Individuals*. And it is certainly the most likely way to erect a glorious Structure and Temple to *Nature*, such as she will be found (by any *zealous Votary*) to reside in; to begin to build a new upon a sure Foundation of Experiments.

But to digress no further from the consideration of the *Phænomena*, more immediately explicable by this Experiment, we shall proceed to shew, That, as to the rising of Water in a *Filtre*, the reason of it will be manifest to him, that does take notice, that a *Filtre* is constituted of a great number of small long solid bodies, which lie so close together, that the Air in its getting in between them, doth lose of its pressure that it has against the *Fluid* without them, by which means the Water or Liquor not finding so strong a resistance between them as is able to counter-ballance the pressure on its superficies without, is raised upward, till it meet with a pressure of the Air which is able to hinder it. And as to the Rising of Oyl, melted Tallow, Spirit of Wine, *&c.* in the Week of a Candle or Lamp, it is evident, that it differs in nothing from the former, save only in this, that in a *Filtre* the Liquor descends and runs away by another part; and in the Week the Liquor is dispersed and carried away by the Flame;

Flame; something there is ascribable to the Heat, for that it may rarifie the more volatil and spirituous parts of those combustible Liquors, and so being made lighter then the Air, it may be protruded upwards by that more ponderous fluid body in the Form of Vapours; but this can be ascribed to the ascension of but a very little, and most likely of that only which ascends without the Week. As for the Rising of it in a Spunge, Bread, Cotton, *&c.* above the superficies of the subjacent Liquor; what has been said about the *Filtre* (if considered) will easily suggest a reason, considering that all these bodies abound with small holes or pores.

From this same Principle also (*viz. the unequal pressure of the Air against the unequal superficies of the water*) proceeds the cause of the accession or incursion of any floating body against the sides of the containing Vessel, or the *appropinquation* of two floating bodies, as *Bubbles*, *Corks*, *Sticks*, *Straws*, *&c.* one towards another. As for instance, Take a Glass-jar, such as A B in the seventh *Figure*, and filling it pretty near the top with water, throw into it a small round piece of Cork, as C, and plunge it all over in water, that it be wet, so as that the water may rise up by the sides of it, then placing it any where upon the superficies, about an inch, or one inch and a quarter from any side, and you shall perceive it by degrees to make *perpendicularly* toward the nearest part of the side, and the nearer it approaches, the faster to be moved; the reason of which *Phænomenon* will be found no other then this, that the Air has a greater pressure against the middle of the *superficies*, then it has against those parts that approach nearer, and are *contiguous* to the sides. Now that the pressure is greater, may (as I shewed before in the explication of the third *Figure*) be evinced from the flatting of the water in the middle, which arises from the gravity of the under *fluid*: for since, as I shewed before, if there were no gravity in the under *fluid*, or that it were equal to that of the upper, the terminating Surface would be *Spherical*, and since it is the additional pressure of the gravity of water that makes it so flat, it follows, that the pressure upon the middle must be greater then towards the sides. Hence the Ball having a stronger pressure against that side of it which respects the middle of the *superficies*, then against that which respects the *approximate* side, must necessarily move towards that part, from whence it finds least resistance, and so be *accelerated*, as the resistance decreases. Hence the more the water is raised under that part of its way it is passing above the middle, the faster it is moved: And therefore you will find it to move faster in E then in D, and in D then in C. Neither could I find the floating substance to be moved at all, until it were placed upon some part of the *Superficies* that was sensibly elevated above the height of the middle part. Now that this may be the true cause, you may try with a blown Bladder, and an exactly round Ball upon a very smooth side of some pliable body, as *Horn* or *Quicksilver*. For if the Ball be placed under a part of the Bladder which is upon one side of the middle of its pressure, and you press strongly against the Bladder, you shall find the Ball moved from the middle towards the sides.

Having